

CLAIMS

1. A phosphor characterized by being represented by the formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_y\text{O}_{3(y+1)}$, wherein $0 \leq x < 2$, Y is 2 or 3, Ln represents at least one member selected from among Y, La, and Gd, and M represents at least one member selected from the group consisting of W and Mo.

2. A phosphor characterized by being represented by the formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_2\text{O}_9$, wherein $0 \leq x < 2$, Ln represents at least one member selected from among Y, La, and Gd, and M represents at least one member selected from the group consisting of W and Mo.

3. A phosphor characterized by being represented by the formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_3\text{O}_{12}$, wherein $0 \leq x < 2$, wherein Ln represents at least one member selected from among Y, La, and Gd, and M represents at least one member selected from W and Mo.

4. A phosphor as described in claim 2, wherein x in the formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_2\text{O}_9$ satisfies the condition $0 \leq x \leq 1.5$.

5. A phosphor as described in claim 3, wherein x in the formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_3\text{O}_{12}$ satisfies the condition $0 \leq x \leq 1.8$.

6. A phosphor as described in any one of claims 1 to 5, wherein M is W.

7. A phosphor as described in any one of claims 1 to 6, wherein Ln is Y.

8. A phosphor as described in any one of claims 1 to 7, which has a particle size of 50 μm or less.

9. A phosphor as described in any of claims 1 to 8, which emits red light.

10. A light-emitting device comprising a light-emitting element and a phosphor as recited in any of claims 1 to 9 in combination.

11. A light-emitting device as described in claim 10, wherein the light-emitting element is a nitride semiconductor light-emitting element and emits light

having a wavelength falling within a range of 220 nm to 550 nm.

12. A light-emitting screen employing a phosphor as recited in any of claims 1 to 9.

5 13. A method for producing a phosphor as recited in any one of claims 1 to 9, characterized in that the method comprises firing at 800 to 1,300°C a mixture containing europium oxide or a compound forming europium oxide through heating; yttrium oxide, lanthanum oxide,
10 gadolinium oxide, or at least one compound forming any of these oxides through heating; and tungsten oxide, molybdenum oxide, or at least one compound forming any of these oxides through heating.